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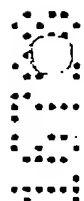
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(56) Related Art
US 5895169
US 5168827

ABSTRACT

A mounting means for a post (1) comprising an in-ground fitting (7) adapted for insertion into the ground at or near ground level and a retaining means (2) adapted to cooperate with said in-ground fitting for removable engagement therewith wherein said retaining means is adapted for mounting said post.



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ORIGINAL

COMPLETE SPECIFICATION
STANDARD PATENT

Invention Title:

Guide post and foot member

The following statement is a full description of this invention
including the best method of performing it known to us:-

Introduction to the Invention

This invention relates to roadside posts, signs, barriers and the like, and in particular to an improved means for mounting and installing such devices in the ground.

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Background to the Invention

Roadside posts and the like, including curb defining posts, signs etc. are subject to constant abuse by passing traffic due to the nature of the environment they are in and the nature of the job they perform. The maintenance cost of repairing and/or replacing damaged or destroyed posts is considerable. Furthermore, the dangers posed by absent or damaged signage is significant. Many post designs have been proposed based on deformable posts which can bounce back, or be readily righted when they are run over by a vehicle; but a further inconvenience caused by such posts is the occasional need to temporarily remove such posts for access purposes, for example lawn mowing etc.

One object of this invention is to provide an improved post mounting means.

Statement of the Invention

In one aspect the invention provides a mounting means for a post comprising an in-ground fitting adapted for insertion into the ground at or near ground level and a retaining means adapted to cooperate with said in-ground fitting for removable engagement therewith and for receiving a vertical post.

The mounting means may include a ground penetrating projection and a top platform.

The retaining means may include a channel shaped section for slidable engagement and removal from said top platform formed on said in-ground fitting.

The retaining means may include an extending lip adapted for folding down to secure said retaining means to said in-ground fitting.

The retaining means, may include a deformable or non-deformable foot rising above said retaining means and adapted for receiving a vertical post.

The deformable foot may comprise an inner platform and an elongate neck adapted to pass through an aperture formed in said retaining means

such that the engagement of said retaining means and foot causes the inner platform thereof to abut the first platform of said in-ground fitting to form a rigid but compliant mounting means for a post.

The post preferably fits to the neck region of said foot.

5 Throughout this specification the word "comprise", or variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated element, integer or step, or group of elements, integers or steps, but not the exclusion of any other element, integer or step, or group of elements, integers or steps.

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Detailed Description of the Invention

The invention will now be described with reference to particularly preferred embodiments shown in Figures 1 to 4.

Figure 1 shows an exploded view of the mounting means of the
15 invention;

Figure 2 shows the assembled view of the mounting means of the invention;

Figure 3 shows a view of the deformed post as accommodated by the mounting means of the invention;

20 Figure 4 shows an alternative embodiment of the mounting means. Referring firstly to Figures 1 and 2, one particularly preferred aspect of the invention provides a highly compact mounting means for a roadside post or sign where the post 1 is independent of the mounting means and adapted for fitting and removal thereto so as to provide ready fitting and removal of a post
25 from the roadside as required. The post 1 is provided with a retaining means 2 in the form of a short length of channel shaped metal or other suitable material. The retaining means is optionally provided with a deformable foot 3 for placement within the channel. The foot 3 comprises an elongate neck 4 attached to an inner platform 5 such that the foot can be inserted into the
30 retaining means 2 with the inner platform fitting within the confines of the channel and the elongate neck protruding through an aperture 6 formed in the top of the channel. The mounting means further provides an in-ground fitting 7 which has an elongate projection for insertion into the ground and a top platform 8 formed on top thereof. The post 1 is adapted for permanent
35 fitting to the elongate neck 4 by way of a bolt or rivet 9 and once assembled, can remain permanently attached to the retaining means and is adapted for

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ready cooperation and engagement with in-ground fittings 7 which are placed wherever the post is required. The in-ground fitting 7 would be located in the ground by way of a driving tool and inserted into the ground at or just above ground level such that the top platform 8 remains accessible but does
5 not pose any dangers or risks when the post has been removed. When the

post requires fitting, it is a simple matter of slidably engaging the retaining means onto the top platform 8 such that the inner platform 5 of the foot is wedged and abutted against the top platform 8 and once the slidable engagement is completed, the post 1 is positioned in a rigid but compliant matter via the deformable foot. When the retaining means is fully engaged to the in-ground fitting, the lip 11 can be bent over such that once a post is fitted by way of the mounting means of the invention, it is secure yet readily removed by the simple lifting up of the lip 11 which allows the post to be detached from the in-ground fitting if required for roadside maintenance or lawn mowing procedures or whatever may be required.

In use, the mounting means of the invention allows posts to be manufactured readily with the retaining means already attached and can be sold or provided with the in-ground fitting 7 such that when the post is required for insertion, the in-ground fittings are installed and the posts subsequently engaged to the fittings as previously described. In the event that an installed post is struck by a motor vehicle or other object, the deformable foot provides for the movement of the post in a manner where the post is not damaged and readily returns to its original position once the offending object has moved over it (see Fig 3). In the event that the foot is destroyed, a replacement would be readily provided at minimal cost. When access is required to the roadside without the posts, instead of having to remove the posts and arrange for reinsertion, the posts, incorporating the mounting means of the invention, are simply withdrawn by the lifting of the lip 11 of the retaining means for slidable disengagement. When access is no longer required or the posts need to be returned, they are readily fitted in the manner previously described.

Referring now to Figure 4 an alternative embodiment of the invention is shown in a simplified form where the mounting means for the post is provided in an analogous fashion to that previously described, however in place of the compliant foot 3, there is provided a riser 10 in the form of a small section of channel onto which a post or road sign 1 can be fitted. This simpler embodiment of the invention does not provide for the compliant deformability of the previous embodiment but does allow for the ready fitting and removal of posts to previously install in-ground fittings and thereby provides a useful and versatile adaptation of the invention. Of course, this

embodiment of the invention could be fitted with a post having deformable properties per se, for example the post detailed in Australian patent 726910

The in-ground fitting can be driven by any convenient tool although the driving tool detailed in Australian patent 717695 and application PO4992

5 are preferred.

The material used for the componentry of the various elements of the invention can be chosen from a wide range of materials, however, the particular embodiment of the invention detailed above provides for a polyurethane compliant foot, a galvanised iron housing and a metallic in-
10 ground fitting.

It will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the invention as shown in the specific embodiments without departing from the spirit or scope of the invention as broadly described. The present embodiments are, therefore, to
15 be considered in all respects as illustrative and not restrictive.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A mounting means for a post comprising an in-ground fitting adapted for insertion into the ground at or near ground level and a retaining means adapted to cooperate with said in-ground fitting for removable engagement therewith wherein said retaining means includes a vertical rising deformable foot adapted for mounting said post.
2. A mounting means according to claim 1 wherein said in-ground fitting includes a ground penetrating projection and a top platform for slidable engagement with said retaining means.
3. A mounting means according to claim 1 or 2 wherein said retaining means includes a channel for slidable engagement with said top platform.
4. A mounting means according to any one of claims 1 to 3 wherein said retaining means includes an extending lip adapted for folding down to secure said retaining means to said in-ground fitting.
5. A mounting means according to claim 4 wherein said deformable foot comprises an inner platform and an elongate neck adapted to pass through an aperture formed in said retaining means.
6. A mounting means according to claim 5 wherein the sliding engagement of said retaining means and said foot causes the inner platform thereof to abut the top platform of said in-ground fitting to form a rigid but compliant mounting means for said post.
7. A mounting means according to any one of claims 5 or 6 wherein said deformable foot is formed of a polymeric material.
8. A mounting means according to claim 7 wherein said deformable foot is formed of polyurethane.
9. A mounting means according to any one of claims 1 to 8 substantially as hereinbefore described with particular reference to the drawings.

Dated this fifth day of November 2004

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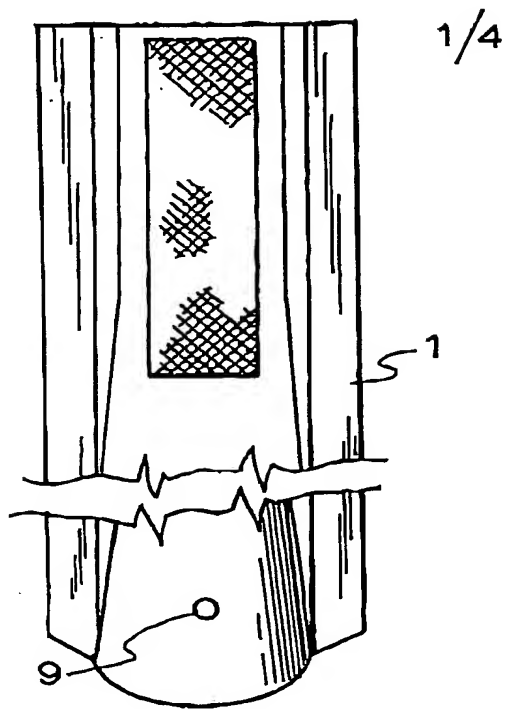
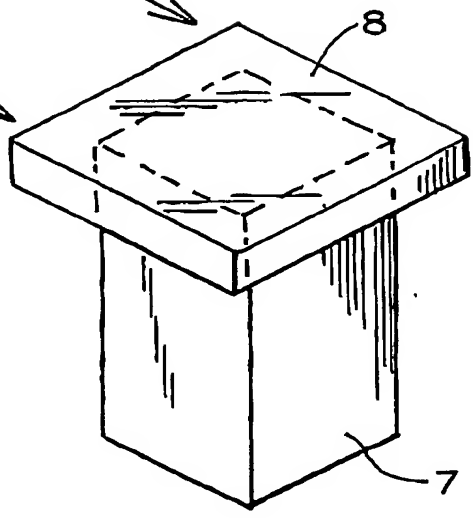
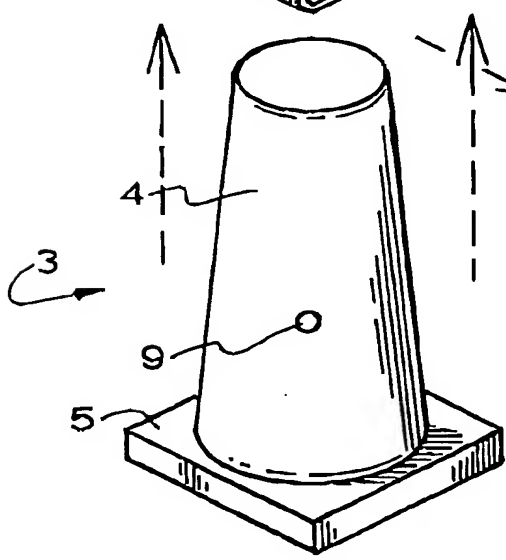
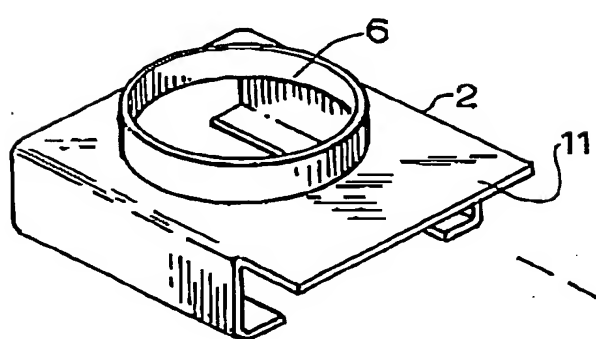


FIG.1.



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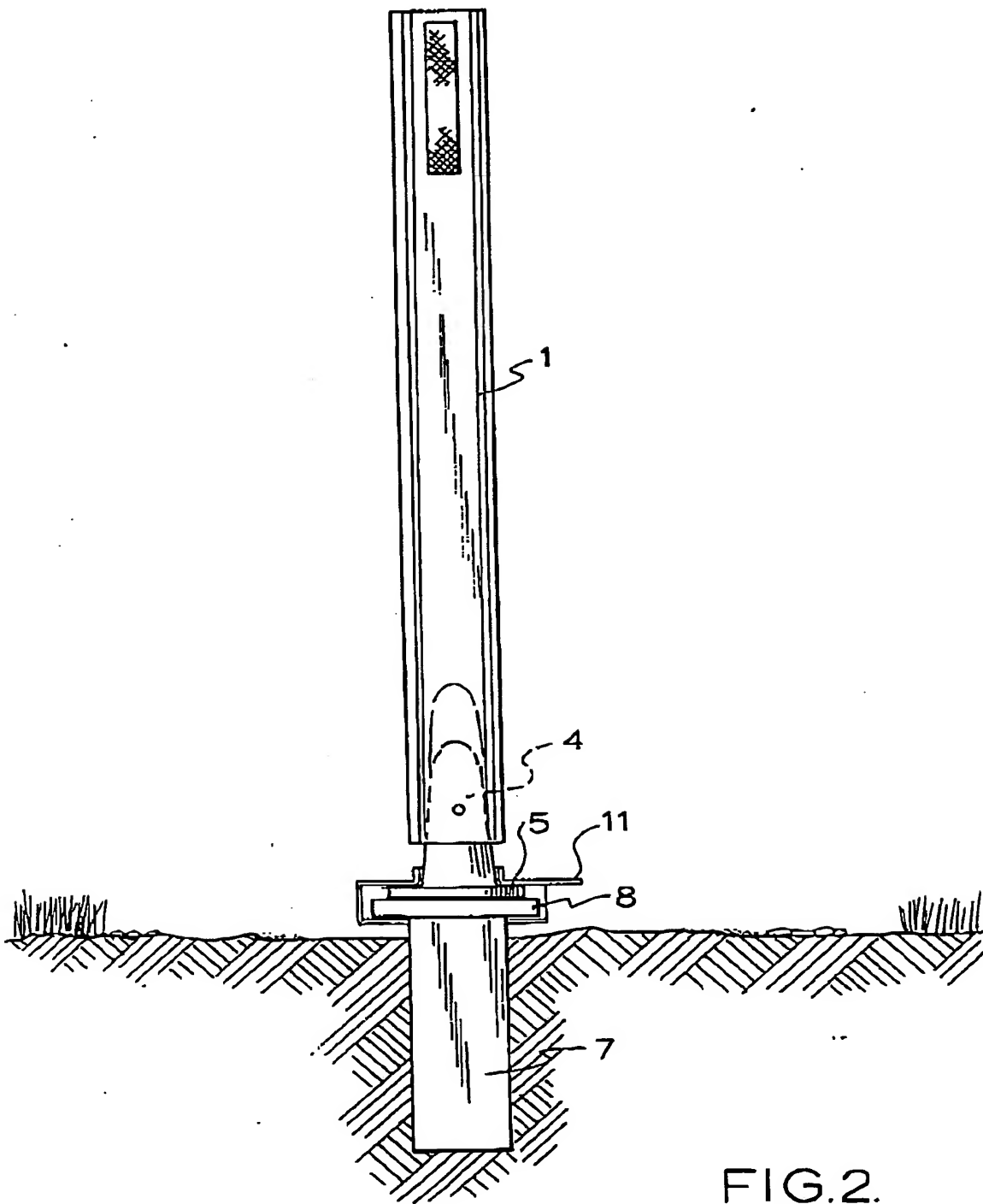


FIG. 2.

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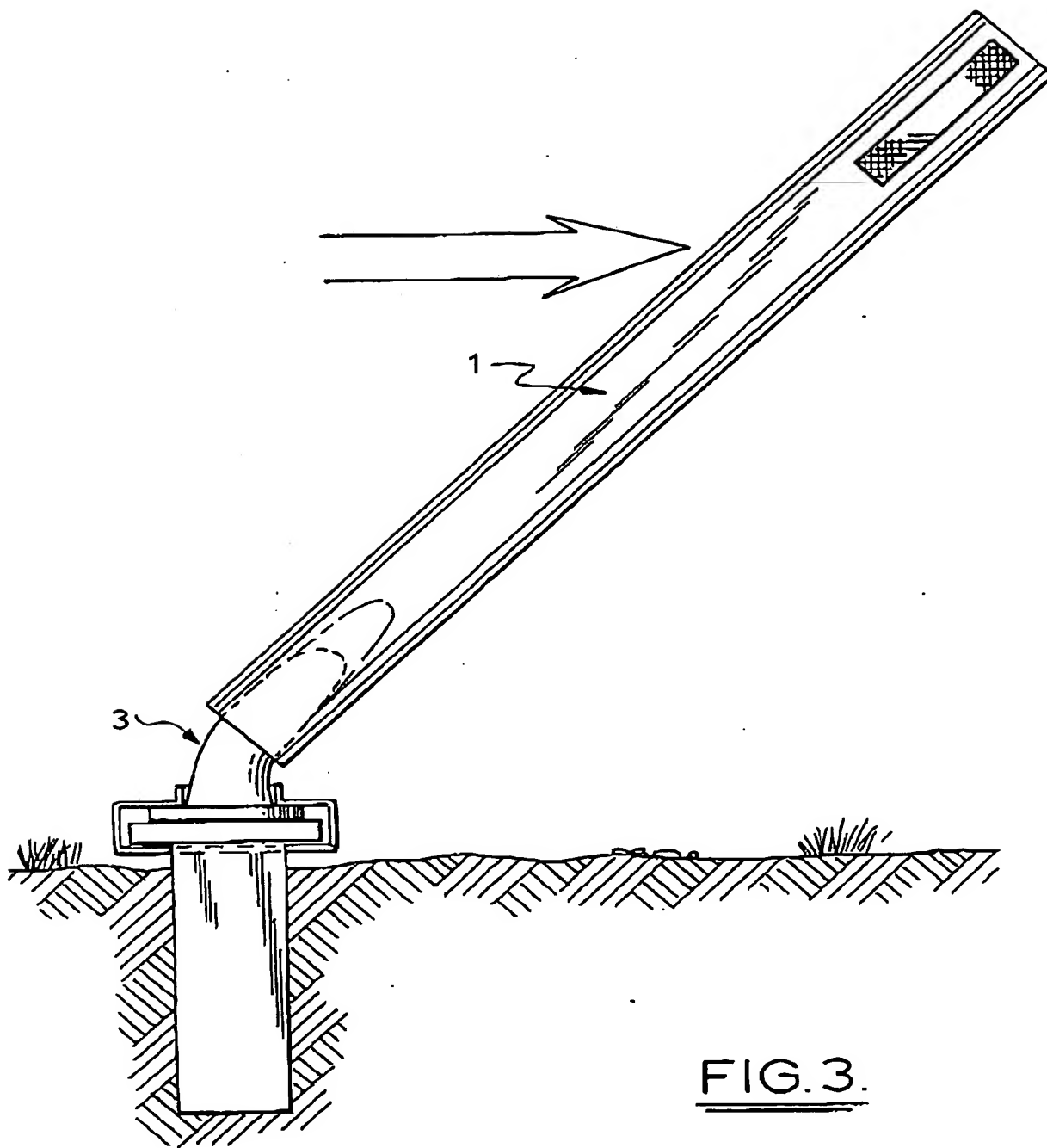
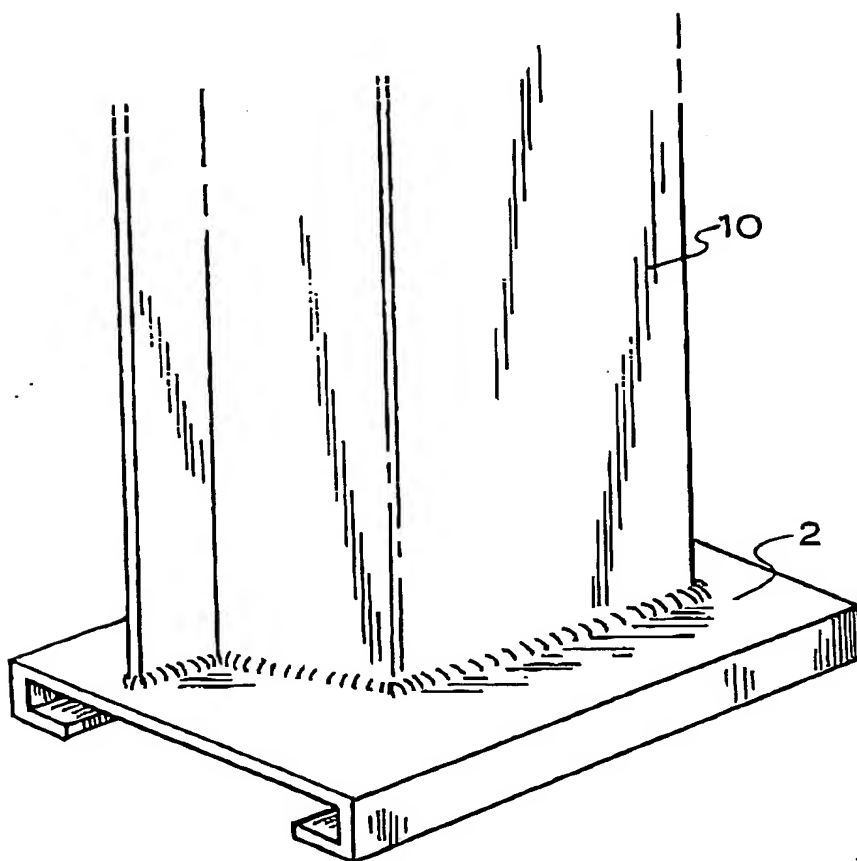


FIG. 3.

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FIG. 4.